ANACONDA

December 20, 1978

Mr. Marc Nelson
Environmental Scientist, SRMA
UNITED STATES GEOLOGICAL SURVEY
Mining Operations - Conservation Division
P. O. Box 26124
Albuquerque, New Mexico 87125

Re: Jackpile Mine Reclamation Plan

Dear Mr. Nelson:

In accordance with your December, 1978 request for further elaboration on the Jackpile Mine Reclamation Plan, I submit the information requested as follows:

1. A map (attached) showing the location of the surface and subsurface water monitoring locations and the data obtained to the present time.

2. A map (attached) showing the air monitoring locations.

3. With regard to a map showing the post reclamation drainage patterns, surface slopes and highwalls, the Laguna Tribe has expressed concern with the Company's Mining and Reclamation plan dated December, 1976. The Anaconda Company is looking forward to resolving these problem areas with the Tribe and, at such time as a mutual agreement is reached, we will forward the requested information on to you.

4. An estimate of the amount of standing water that will occur after reclamation, the possibility of it becoming contaminated and ways to prevent contamination, will be forwarded to you as stated in No. 3 above.

5. All available gamma and radon data for all previously reclaimed waste dumps and Dumps K and L has been submitted to you (W.E. 'Bill' Gray letter dated July 19, 1978). As soon as new data becomes available it will be forwarded to you.

6. Data showing that the species being used for revegetation do not concentrate radioactive elements or selenium was previously submitted (Bill Gray letter dated July 19, 1978). The vegetation sampling program will be initiated in the spring of 1979. The optimum

time for sampling is during periods of the most active metabolism. This is generally considered to be from late spring through early fall.

7. A replacement for page 6 (attached) of our July 19, 1978 letter, correcting the amount of cover in part (b).

Sincerely,

R.D. LYNN
General Manager

RDL/jms
Encls.

dumps. Since Rn^{222} is the factor of interest and our sampling design directly includes radon measurements on previously reclaimed dumps and also future sites, it may not be necessary to monitor the parameters mentioned to determine a radon value on dumps that have been reclaimed.

NOTE: The Rn^{222} flux study will begin following the gamma survey and evaluation as per the sampling design.

(b)

Dump	Type of Cover	Amount of Cover
North Dump	Tres Hermanos Sandstone	Crushed existing rock on surface 18" to 24" deep
O, P_d, P_1, P_2	Tres Hermanos Sandstone	Existing material on dump.
F, G	Mixture of Tres Hermanos Sandstone and some Shales.	18 to 24 inches deep
C, D, E	Tres Hermanos Sandstone	Existing material on dump.
J, V	Tres Hermanos Sandstone	18 to 24 inches deep
T	Tres Hermanos Sandstone	18 to 24 inches deep

(c) At present, soil samples taken from dumps to be reclaimed are analyzed for a number of chemical elements in which selenium is included. Again, in our minesite reclamation sampling program, soil samples from dumps will be run for total uranium, thorium 230, radium 226 and lead 210.

(d) An estimation of cover required could possibly be accomplished from data obtained from previously reclaimed dumps. The results from the radionuclide analysis on dump soils may also aid in predicting radon gas levels and subsequently amount to cover material. There are no present regulation setting limits on radon exhalation fluxes from reclaimed uranium mine wastes, however, the radon exhalation on reclaimed uranium mill tailings should be kept below twice the background value (U.S.N.R.C.